Amendments/Listing of the Claims

The following listing of the claims is intended to replace all previous versions and/o listings of the claims in the present application:

Claim 1 (Cancelled)

Claim 2 (Previously presented) The assembly of claim 10 wherein the gap in the transmiss on path is aligned with a lowermost portion of the transmitter to attenuate the megasonic energ transm itted to the lowermost portion.

Claim 3 (Cancelled)

Claim 4 (Previously Presented) The assembly of claim 2, wherein said lowermost portion l as an elongated configuration forming an edge uniformly spaced from the substrate.

Claim 5 (Previously presented) The assembly of claim 10, further including a support for t e substrate; and a source of liquid to be applied to the gap between the substrate and the transmitter.

Claim 6 (Original) The assembly of claim 5, wherein said source of liquid includes a dispe ser for dis pensing liquid into said gap.

Claim 7 (Cancelled)

Claim 8 (Cancelled)

Claim 9 (Previously presented) The assembly of claim 10, wherein said transmitter compri es an clor gated rod.

Claim 10 (Previously presented) An assembly for cleaning a thin, flat substrate comprisin;

a transmitter to be positioned above a substantially flat surface of the substrate so th when l quid is applied to a gap between the transmitter and the substrate, a meniscus of liqu l is formed between the transmitter and the substrate;

a transducer coupled to the transmitter in a manner to create a transmission path for transmitting megasonic vibration from the transducer through the transmitter to the substrate; and

a heat transfer element positioned between the transducer and the transmitter and forming a portion of said transmission path, said heat transfer element comprising a gap in the transmission path between the transducer and an end face of the transmitter.

Claims 11-15 (Cancelled)

Claim 16 (Previously presented) The assembly of claim 18, wherein the coupler is configured to produce a pattern of megasonic energy transmission from the probe other than a radial pattern.

Claim 17 (Previously presented) A megasonic probe assembly for cleaning a thin flat substrate comprising: a probe including an elongated rod with a lower edge along the length of the rod to be positioned above but closely adjacent to a flat surface of the substrate; a transducer for translating electrical energy into megasonic vibration; a heat transfer element positioned between the transducer and a rear end face of the probe; and a coupler positioned between the heat transfer element and the rear end face of the probe, the coupler transmitting the megasonic vibration to the rear end of the probe, the coupler being configured to attenuate the energy transmitted to a portion of said probe, wherein the coupler is generally disc-shaped, but has a portion aligned with the probe lower edge that is configured to minimize the transmission of megasonic energy to the lower edge.

Claim 18 (Previously presented) A megasonic probe assembly for cleaning a thin flat substrate comprising: a probe including an elongated rod with a lower edge along the length of the rod to be positioned above but closely adjacent to a flat surface of the substrate; a transducer for translating electrical energy into megasonic vibration; a heat transfer element positioned between the transducer and a rear end face of the probe; and a coupler positioned between the heat transfer element and the rear end face of the probe, the coupler transmitting the megasonic vibration to the rear end of the probe, the coupler being configured to attenuate the energy transmitted to a portion of said probe, wherein a portion of the end face of the probe is spaced from the heat transfer element and the spaced portion is aligned with the probe lower edge so that the transmission of megasonic energy to the probe lower edge is minimized.

Claim 19 (Previously presented) The assembly of claim 18, wherein the coupler is generally elliptical, and the coupler is configured to produce a pattern of megasonic energy transmission from the probe other than a radial pattern.

Claim 20 (Cancelled)

Claims 21 - 26 (Cancelled)

Claim 27 (Currently amended) The assembly of claim 28 wherein the ~~heat transfer element comprises a~~ gap is in the transmission path between the transducer and an end face of the transmitter.

Claim 28 (Currently amended) An assembly for cleaning a thin flat substrate comprising: a transmitter including an elongated element with a lower edge to be positioned above but closely adjacent to a flat surface of the substrate; a transducer for translating electrical energy into megasonic vibration; and a heat transfer element positioned between the transducer and the transmitter to transmit vibration to the transmitter; wherein the heat transfer element is configured to attenuate the energy transmitted to a portion of the probe, wherein ~~the~~ a gap in the heat transfer element is aligned with a lowermost portion of the transmitter to attenuate the megasonic energy transmitted to the lowermost portion.

Claim 29 (Previously presented) The assembly of claim 28 wherein said lowermost portion has an elongated configuration forming an edge uniformly spaced from the substrate.

Claim 30 (Previously presented) The assembly of claim 28 further including a support for the substrate; and a source of liquid to be applied to the gap between the substrate and the transmitter.

Claim 31 (Previously presented) The assembly of claim 30 wherein said source of liquid includes a dispenser for dispensing liquid into said gap.

Claim 32 (Previously presented) The assembly of claim 28 wherein said transmitter comprises an elongated rod.